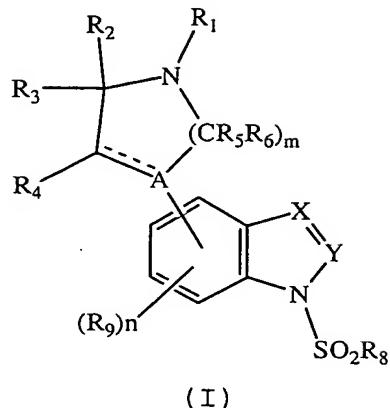


WHAT IS CLAIMED IS:

1. A compound of formula I



5

wherein

A is C, CR_{10} or N;
 10 X is CR_{11} or N;
 Y is CR, or N with the proviso that when X is N, then
 Y must be CR;
 15 R_1 is H, C_1-C_6 alkylcarbonyl, C_1-C_6 alkylcarbonyloxy or
 an C_1-C_6 alkyl, C_1-C_6 alkenyl, C_1-C_6 alkynyl or
 cycloheteroalkyl group each optionally
 substituted;
 20 R_2 , R_3 , R_4 , R_5 and R_6 are each independently H,
 halogen, OH or an optionally substituted C_1-
 C_6 alkyl group;
 25 R_7 and R_{11} are each independently H, halogen or an C_1-
 C_6 alkyl, aryl, heteroaryl or C_1-C_6 alkoxy group
 each optionally substituted;
 R_8 is an C_1-C_6 alkyl, aryl or heteroaryl group each
 optionally substituted;
 R_9 is H, halogen or an C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-
 C_6 alkenyl, aryl or heteroaryl group each
 optionally substituted;

R_{10} is H, OH or an optionally substituted C_1 - C_6 alkoxy group;

m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

5 $\underline{\text{----}}$ represents a single bond or a double bond; or a pharmaceutically acceptable salt thereof.

2. The compound according to claim 1 wherein A is N and m is 2.

10

3. The compound according to claim 1 wherein R_8 is an optionally substituted phenyl group.

15

4. The compound according to claim 1 wherein R_2 , R_3 , R_4 , R_5 and R_6 are H.

5. The compound according to claim 2 wherein R_1 is H or a C_1 - C_6 alkyl or cycloheteroalkyl group each optionally substituted.

20

6. The compound according to claim 5 selected from the group consisting of:

1-(phenylsulfonyl)-4-piperazin-1-yl-1H-indole;

1-[(2-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

25

1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(3,4-dimethoxyphenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(5-chloro-3-methyl-1-benzothien-2-yl)sulfonyl]-4-

30

piperazin-1-yl-1H-indole;

1-[(4-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(5-bromothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(4,5-dichlorothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-

35

indole;

methyl 4-[(4-piperazin-1-yl-1H-indol-1-yl)sulfonyl]phenyl
ether;

4-piperazin-1-yl-1-{{4-
 (trifluoromethoxy)phenyl}sulfonyl}-1H-indole;

5 4-(4-benzylpiperazin-1-yl)-1-(phenylsulfonyl)-1H-indole;

4-(4-benzylpiperazin-1-yl)-1-[(2-bromophenyl)sulfonyl]-
1H-indole;

4-(4-benzylpiperazin-1-yl)-1-[(6-chloroimidazo[2,1-
b][1,3]thiazol-5-yl)sulfonyl]-1H-indole;

10 4-(4-benzylpiperazin-1-yl)-1-[(3,4-
dimethoxyphenyl)sulfonyl]-1H-indole;

4-[4-(3-methoxybenzyl)piperazin-1-yl]-1-(phenylsulfonyl)-
1H-indole;

1-(phenylsulfonyl)-4-[4-(pyridin-4-ylmethyl)piperazin-1-
yl]-1H-indole;

15 1-(phenylsulfonyl)-4-[4-(pyridin-3-ylmethyl)piperazin-1-
yl]-1H-indole;

1-[(2-bromophenyl)sulfonyl]-4-[4-(3-
methoxybenzyl)piperazin-1-yl]-1H-indole;

20 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-4-
ylmethyl)piperazin-1-yl]-1H-indole;

1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-3-
ylmethyl)piperazin-1-yl]-1H-indole;

1-(phenylsulfonyl)-5-piperazin-1-yl-1H-indazole;

25 1-(phenylsulfonyl)-6-piperazin-1-yl-1H-indazole;

1-[(2-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;

1-[(4-bromophenyl)sulfonyl]-5-piperazin-1-yl-1H-indazole;

1-[(4-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;

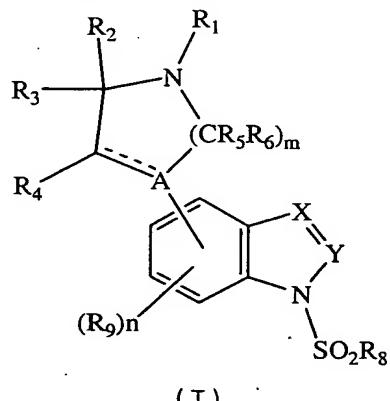
1-[(5-bromothien-2-yl)sulfonyl]-5-piperazin-1-yl-1H-
30 indazole;

1-[(5-bromothien-2-yl)sulfonyl]-6-piperazin-1-yl-1H-
indazole;

1-[(4-fluorophenyl)sulfonyl]-5-piperazin-1-yl-1H-
indazole;

1-[(4-fluorophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 methyl 4-[(5-piperazin-1-yl-1H-indazol-1-yl)sulfonyl]phenyl ether;
 5 1-phenylsulfonyl-4-(4-propylpiperazin-1-yl)-1H-indazole;
 1-phenylsulfonyl-4-piperazin-1-yl-1H-indazole;
 1-phenylsulfonyl-4-(4-phenethylpiperazin-1-yl)-1H-indazole;
 10 1-phenylsulfonyl-4-[4-(3-phenylpropyl)-piperazin-1-yl]-1H-indazole; and
 the pharmaceutically acceptable salts thereof.

7. A method for the treatment of a disorder of the central nervous system related to or affected by the 5-HT₆ receptor in a patient in need thereof which comprises administering to said patient a therapeutically effective amount of a compound of formula I.



20 wherein
 A is C, CR₁₀ or N;
 X is CR₁₁ or N;
 Y is CR, or N with the proviso that when X is N, then
 Y must be CR;
 25 R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or
 an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
 cycloheteroalkyl group each optionally
 substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H, halogen, OH or an optionally substituted C₁-C₆alkyl group;

5 R₇ and R₁₁ are each independently H, halogen or an C₁-C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group each optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each optionally substituted;

10 R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-C₆alkenyl, aryl or heteroaryl group each optionally substituted;

R₁₀ is H, OH or an optionally substituted C₁-C₆alkoxy group;

m is an integer of 1, 2 or 3;

15 n is 0 or an integer of 1, 2 or 3; and
---- represents a single bond or a double bond; or
a pharmaceutically acceptable salt thereof.

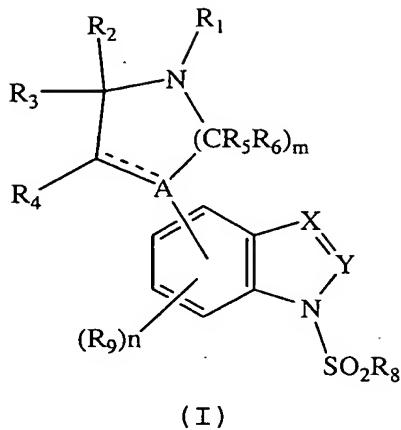
8. The method according to claim 7 wherein said
20 disorder is a motor disorder, anxiety disorder or
cognitive disorder.

9. The method according to claim 7 wherein said
disorder is schizophrenia or depression.

25 10. The method according to claim 8 wherein said
cognitive disorder is a neurodegenerative disorder.

11. The method according to claim 10 wherein said
30 neurodegenerative disorder is Alzheimer's disease or
Parkinson's disease

12. A pharmaceutical composition which comprises a
pharmaceutically acceptable carrier and an effective
35 amount of a compound of formula I.



wherein

5 A is C, CR₁₀ or N;

10 X is CR₁₁ or N;

15 Y is CR₇ or N with the proviso that when X is N, then
Y must be CR₇;

20 R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or
an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
cycloheteroalkyl group each optionally
substituted;

25 R₂, R₃, R₄, R₅ and R₆ are each independently H,
halogen, OH or an optionally substituted C₁-
C₆alkyl group;

30 R₇ and R₁₁ are each independently H, halogen or an C₁-
C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group
each optionally substituted;

35 R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each
optionally substituted;

40 R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-
C₆alkenyl, aryl or heteroaryl group each
optionally substituted;

45 R₁₀ is H, OH or an optionally substituted C₁-C₆alkoxy
group;

50 m is an integer of 1, 2 or 3;

55 n is 0 or an integer of 1, 2 or 3; and
---- represents a single bond or a double bond; or

a pharmaceutically acceptable salt thereof.

13. The composition according to claim 12 wherein A is N and m is 2.

5

14. The composition according to claim 12 wherein R₈ is an optionally substituted phenyl group.

10 15. The composition according to claim 12 wherein R₂, R₃, R₄, R₅ and R₆ are H.

16. The composition according to claim 13 wherein R₁ is H or a C₁-C₆alkyl or cycloheteroalkyl group each optionally substituted.

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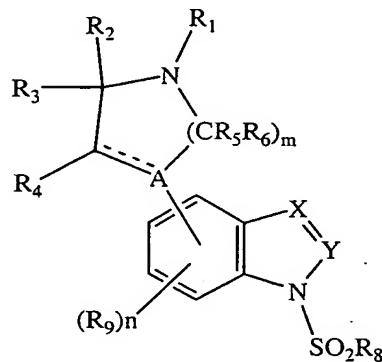
17. The composition according to claim 16 having a compound of formula I selected from the group consisting of:

1-(phenylsulfonyl)-4-piperazin-1-yl-1H-indole;
20 1-[(2-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;
1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-4-
piperazin-1-yl-1H-indole;
1-[(3,4-dimethoxyphenyl)sulfonyl]-4-piperazin-1-yl-1H-
indole;
25 1-[(5-chloro-3-methyl-1-benzothien-2-yl)sulfonyl]-4-
piperazin-1-yl-1H-indole;
1-[(4-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;
1-[(5-bromothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-
indole;
30 1-[(4,5-dichlorothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-
indole;
methyl 4-[(4-piperazin-1-yl-1H-indol-1-yl)sulfonyl]phenyl
ether;
4-piperazin-1-yl-1-[(4-
35 (trifluoromethoxy)phenyl)sulfonyl]-1H-indole;

4- (4-benzylpiperazin-1-yl)-1-(phenylsulfonyl)-1H-indole;
 4- (4-benzylpiperazin-1-yl)-1-[(2-bromophenyl)sulfonyl]-
 1H-indole;
 4- (4-benzylpiperazin-1-yl)-1-[(6-chloroimidazo[2,1-
 5 b] [1,3]thiazol-5-yl)sulfonyl]-1H-indole;
 4- (4-benzylpiperazin-1-yl)-1-[(3,4-
 dimethoxyphenyl)sulfonyl]-1H-indole;
 4- [4- (3-methoxybenzyl)piperazin-1-yl]-1-(phenylsulfonyl)-
 1H-indole;
 10 1- (phenylsulfonyl)-4- [4- (pyridin-4-ylmethyl)piperazin-1-
 yl]-1H-indole;
 1- (phenylsulfonyl)-4- [4- (pyridin-3-ylmethyl)piperazin-1-
 yl]-1H-indole;
 1- [(2-bromophenyl)sulfonyl]-4- [4- (3-
 15 methoxybenzyl)piperazin-1-yl]-1H-indole;
 1- [(2-bromophenyl)sulfonyl]-4- [4- (pyridin-4-
 ylmethyl)piperazin-1-yl]-1H-indole;
 1- [(2-bromophenyl)sulfonyl]-4- [4- (pyridin-3-
 ylmethyl)piperazin-1-yl]-1H-indole;
 20 1- (phenylsulfonyl)-5-piperazin-1-yl-1H-indazole;
 1- (phenylsulfonyl)-6-piperazin-1-yl-1H-indazole;
 1- [(2-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 1- [(4-bromophenyl)sulfonyl]-5-piperazin-1-yl-1H-indazole;
 1- [(4-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 25 1- [(5-bromothien-2-yl)sulfonyl]-5-piperazin-1-yl-1H-
 indazole;
 1- [(5-bromothien-2-yl)sulfonyl]-6-piperazin-1-yl-1H-
 indazole;
 1- [(4-fluorophenyl)sulfonyl]-5-piperazin-1-yl-1H-
 30 indazole;
 1- [(4-fluorophenyl)sulfonyl]-6-piperazin-1-yl-1H-
 indazole;
 methyl 4- [(5-piperazin-1-yl-1H-indazol-1-
 yl)sulfonyl]phenyl ether;
 35 1-phenylsulfonyl-4- (4-propylpiperazin-1-yl)-1H-indazole;

1-phenylsulfonyl-4-piperazin-1-yl-1H-indazole;
 1-phenylsulfonyl-4-(4-phenethylpiperazin-1-yl)-1H-indazole;
 1-phenylsulfonyl-4-[4-(3-phenylpropyl)-piperazin-1-yl]-1H-indazole; and
 5 the pharmaceutically acceptable salts thereof.

18. A method for the preparation of a compound of formula I.



(I)

wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

15 Y is CR, or N with the proviso that when X is N, then
 Y must be CR;

R₁ is C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or an
 C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
 cycloheteroalkyl group each optionally

20 substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H,
 halogen, OH or an optionally substituted C₁-
 C₆alkyl group;

R₇ and R₁₁ are each independently H, halogen or an C₁-
 25 C₆alkyl, aryl, heteroaryl or alkoxy group each
 optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each
 optionally substituted;

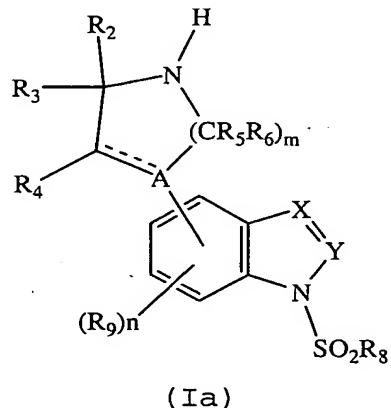
R_9 is H, halogen or an C_1 - C_6 alkyl, C_1 - C_6 alkoxy, C_1 - C_6 alkenyl, aryl or heteroaryl group each optionally substituted;

R_{10} is H, OH or an optionally substituted C_1 - C_6 alkoxy group;

5 m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

10 --- represents a single bond or a double bond said method which comprises reacting a compound of formula Ia



15 wherein A, X, R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , m and n are as defined hereinabove for formula I with a compound R_1 -Hal wherein R_1 is as defined hereinabove for formula I and Hal is Cl, Br or I.